

Name: _____ TP: _____

Failure to show work on all problems or use complete sentences will result in a LaSalle.

Watch the following video and answer the following questions

<http://tinyurl.com/GEOMCP57>

For all of the following rules do the following: 1) Describe the process and 2) Provide an example

1) If something is being put to the 3rd root, what power is that?

Mathematically, we're asking: $\sqrt[3]{x} = x^?$

2) Copy the exact process Mr. Khan takes for the example problem he does: $5\sqrt[3]{2x^2} \cdot 3\sqrt[3]{4x^4}$

Complete the following problems:

1) $-x^4y^3z \cdot 4x^3z$

$-x^4 \cdot y^3 \cdot z \cdot 4 \cdot x^3 \cdot z$

$-1 \cdot 4 = -4$

$x^4 \cdot x^3 = \square$

$y^3 = \square$

$z \cdot z = \square$

Put it together:

2) $4g^3h \cdot 2g^8h^2$

4) $(-12hj)^2$

$(-12 \cdot h \cdot j)^2$

6) Review: If a rectangle measures 42 meters by 56 meters, what is the length, in meters, of the diagonal of the rectangle?



Hint: What do we use to find the hypotenuse in a right \triangle ?

7) What is the slope-intercept form of $-3x - y + 7 = 0$?

$-3x - y + 7 = 0 + 3x$

$+ 3x$

$-y + 7 = 3x$

*Continue to solve for y!
Don't forget the negative.

Remember that you can always use old notes, a dictionary, math textbook, and/or look up topics online!

1) In the past, you have used FOIL or box method to simplify the expression below.

The expression $(6s - 2)(4s - 7)$ is equivalent to:

- F. $24s^2 - 50s + 14$
- G. $24s^2 - 34s - 14$
- H. $24s^2 + 14$
- J. $10s^2 - 50s + 14$
- K. $10s^2 - 14$

Handwritten box method for $(6s - 2)(4s - 7)$:

	$6s$	-2
$4s$	$24s^2$	
-7		

2)

$(4x - 5)(3x + 1)$ is equivalent to:

- A. $7x - 4$
- B. $12x^2 - 5$
- C. $7x^2 + 11x - 4$
- D. $12x^2 - 11x - 5$
- E. $16x + 20$

Now do the opposite! Take the simplified expression and turn it into its factors (binomials)! If you forget how, use this video: <http://tinyurl.com/GEOMCP55B>

3) Factor the following quadratic: $x^2 - 15x + 56$.

Handwritten factorization of $x^2 - 15x + 56$:

Factors of x^2 ——— Factors of 56

CHECK: FOIL to make sure it equals $x^2 - 15x + 56$

4) Little tougher: Now factor $2x^2 + x - 6$.

Handwritten factorization of $2x^2 + x - 6$:

Factors of $1st: 2x^2$ ——— Factors of $last: -6$

$\frac{2x}{x}$ ———

Handwritten factorization of $2x^2 + x - 6$:

$(2x) (x)$

$\uparrow \quad \uparrow$

CHECK: FOIL to make sure it equals $2x^2 + x - 6$

5) Little tougher still: Factor $3x^2 + 15x - 42$.

Handwritten factorization of $3x^2 + 15x - 42$:

$3(x^2 + 5x - 14)$

3, 15, & -42 have a common factor of 3!

Handwritten factorization of $3x^2 + 15x - 42$:

$\rightarrow 3(\quad)(\quad)$

STAY READY.

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1) How else can you write $\frac{\sqrt{x}}{\sqrt{y}}$?

2) Complete the following problem as Mr. Khan does in the video.

$$\frac{\sqrt{60x^2y}}{\sqrt{48x}}$$

Try these on your own:

3)

$$\frac{\sqrt{8x^5}}{\sqrt{xy}}$$

Handwritten work for problem 3:

$$\frac{\sqrt{4 \cdot 2} \cdot \sqrt{x^4 \cdot x}}{\sqrt{xy}} = \frac{2\sqrt{2} \cdot \sqrt{x^4} \cdot \sqrt{x}}{\sqrt{xy}} = \frac{2x^2\sqrt{2} \cdot \sqrt{x}}{\sqrt{xy}} = \frac{2x^2\sqrt{2y}}{\sqrt{y}}$$

The final answer $\frac{2x^2\sqrt{2y}}{\sqrt{y}}$ is boxed in green.

4)

$$\frac{\sqrt{100x^4}}{\sqrt{25x^2}}$$

Handwritten work for problem 4:

$$\frac{\sqrt{100} \cdot \sqrt{x^4}}{\sqrt{25} \cdot \sqrt{x^2}} = \frac{10 \cdot x^2}{5 \cdot x} = 2x$$

Hint: \div exponent \rightarrow by 2!

5)

$$\frac{\sqrt[3]{27x^9y^3}}{\sqrt[3]{8x^6y^6}}$$

Handwritten work for problem 5:

$$\frac{3x^3y}{2x^2y^2} = \frac{3x}{2y}$$

Hint: \div exponents by 3 AND $\sqrt[3]{27} \rightarrow \dots = 3$

YOU TRY.

STAY READY.

You should approach each problem as an exploration. Problem-solving requires persistence as much as it requires ingenuity. When you get stuck, or solve a problem incorrectly, back up and start over. Keep in mind that you're probably not the only one who is stuck, and that may even include your teacher. **If you have taken the time to think about a problem, you should bring to class a written record of your efforts, not just a blank space in your notebook.** The methods that you use to solve a problem, the corrections that you make in your approach, the means by which you test the validity of your solutions, and your ability to communicate ideas are just as important as getting the correct answer.

Remember that you can always use old notes, a dictionary, math textbook, and/or look up topics online!

- 1) You are standing at the coordinate $(-2, 4)$. Which coordinate is closer to you: $(-6, 9)$ or $(4, -1)$?

B
 $(-6, 9)$

* "closer to you" would indicate that you need to find the distance. What formula do you need to use? _____

A
 $(-2, 4)$

C
 $(4, -1)$

\overline{AB} :

\overline{AC} :

Which point is closer to A? \downarrow

- 2) How much wood would a wood chuck chuck if a wood chuck could chuck wood at a speed of 3 logs per hour but the wood chuck insisted on taking a break every 15 minutes and only working for 7 hours?

- 3 logs per hour
- Break EVERY 15 min
- Works 7 hrs. only

② Simplify: $\frac{4xy^{-2}}{8y^3x}$

③ Simplify: $\frac{8m^3n^0p^{-2}}{12nm}$

④ Factor: $x^2 - 4x + 4$

Factors of x^2 { } Factors of $+4$ { }

() ()

STAY READY.